CLAIMS

We claim:

1. A method of screening drug candidates comprising:

a) providing a cell that expresses an expression profile gene encoding PBH1 or fragment thereof;

b) adding a drug candidate to said cell; and

c) determining the effect of said drug candidate on the expression of said expression profile gene.

2. A method according to claim 1 wherein said determining comprises comparing the level of expression in the absence of said drug candidate to the level of expression in the presence of said drug candidate.

3. A method of screening for a bioactive agent capable of binding to PBH1 or a fragment thereof, said method comprising:

a) combining said PBH1 or a fragment thereof and a candidate bioactive agent; and

b) determining the binding of said candidate agent to said PBH1 or a fragment thereof.

4. A method for screening for a bioactive agent capable of modulating the activity of PBH1, said method comprising:

a) combining PBH1 and a candidate bioactive agent; and

b) determining the effect of said candidate agent on the bioactivity of PBH1.

5. A method of evaluating the effect of a candidate prostate cancer drug comprising:

a) administering said drug to a patient;

b) removing a cell sample from said patient; and

c) determining the expression of a gene encoding PBH1 or fragment thereof.

6. A method according to claim 5 further comprising comparing said expression profile to an expression profile of a healthy individual.

7. A method of diagnosing prostate cancer comprising:

a) determining the expression of a gene encoding PBH1 or a fragment thereof in a first colon tissue of a first individual; and

b) comparing said expression of said gene(s) from a second normal colon tissue from said first individual or a second unaffected individual;

wherein a difference in said expression indicates that the first individual has prostate cancer.

8. An antibody which specifically binds to PBH1 or a fragment thereof.

9. The antibody of Claim 8, wherein said antibody is a monoclonal antibody.

10. The antibody of Claim 8, wherein said antibody is a humanized antibody.

11. The antibody of Claim 8, wherein said antibody is an antibody fragment.

12. The antibody of Claim 8, wherein said antibody modulates the bioactivity of PBH1.

13. The antibody of Claim 12, wherein said antibody is capable of inhibiting the bioactivity or neutralizing the effect of PBH1.

14. A method for screening for a bioactive agent capable of interfering with the binding of PBH1 or a fragment thereof and an antibody which binds to PBH1 or fragment thereof, said method comprising:

a) combining PBH1 or fragment thereof, a candidate bioactive agent and an antibody which binds to PBH1 or fragment thereof; and

b) determining the binding of PBH1 or fragment thereof and said antibody.

15. A method according to Claim 14, wherein said antibody is capable of inhibiting or neutralizing the bioactivity of PBH1.

16. A method for inhibiting the activity of PBH1, said method comprising binding an inhibitor to PBH1.

17. A method according to claim 16 wherein said inhibitor is an antibody.

18. A method of neutralizing the effect of PBH1 or a fragment thereof, comprising contacting an agent specific for said PBH1 or fragment thereof with said PBH1 or fragment thereof in an amount sufficient to effect neutralization.

19. A method of treating prostate cancer comprising administering to a patient an inhibitor of PBH1.

20. A method according to claim 19 wherein said inhibitor is an antibody.

21. A method for localizing a therapeutic moiety to prostate cancer tissue comprising exposing said tissue to an antibody to PBH1 or fragment thereof conjugated to said

therapeutic moiety.

22. The method of Claim 21, wherein said therapeutic moiety is a cytotoxic agent.

23. The method of Claim 21, wherein said therapeutic moiety is a radioisotope.

24. A method of treating prostate cancer comprising administering to an individual having said prostate cancer an antibody to PBH1 or fragment thereof conjugated to a therapeutic moiety.

25. The method of Claim 24, wherein said therapeutic moiety is a cytotoxic agent.

26 The method of Claim 24, wherein said therapeutic moiety is a radioisotope.

27. A method for inhibiting prostate cancer in a cell, wherein said method comprises administering to a cell a composition comprising antisense molecules to a nucleic acid of Figure 1.

28. A biochip comprising one or more nucleic acid segments encoding PBH1 or a fragment thereof, wherein said biochip comprises fewer than 1000 nucleic acid probes.

29. A method of eliciting an immune response in an individual, said method comprising administering to said individual a composition comprising PBH1 or a fragment thereof.

30. A method of eliciting an immune response in an individual, said method comprising administering to said individual a composition comprising a nucleic acid encoding PBH1 or a fragment thereof.

31. A method for determining the prognosis of an individual with prostate cancer comprising determining the level of PBH1 in a sample, wherein a high level of PBH1 indicates a poor prognosis.

32. A polypeptide comprising the amino acid sequence as set forth in Figure 2.

33. A polypeptide which is a fragment of and which comprises at least one epitope of a polypeptide having the amino acid sequence as set forth in Figure 2.

34. A polypeptide having an amino acid sequence that is at least 45% identical to the amino acid sequence set forth in Figure 2.

35. A polypeptide having an amino acid sequence that is at least 60% homologous to the amino acid sequence set forth in Figure 2.

36. A polypeptide having an amino acid sequence that is at least 95% identical to the amino acid sequence set forth in Figure 2.

37. A composition comprising the polypeptide of Claim 32, 33, 34, 35 or 36 and a pharmaceutically acceptable carrier.

38. A nucleic acid comprising the nucleic acid sequence as set forth in Figure 1.

39. A nucleic acid comprising a nucleic acid sequence encoding the polypeptide of Claim 32 or 33.